begins the Ciconiidæ. Only one new form appears, *Meliërax canorus neumanni* (p. 1165) Arbub, Mereau.— W. S.

Phillips on Experimental Studies of Hybridization among Ducks and Pheasants.[1]— The experiments here described were carried on during the past five years. The species involved were the Mallard, Pintail, Australian and East Indian Ducks; and the Ring-neck, Prince of Wales, Lady Amherst and Golden Pheasants, and the investigations deal mainly with the inheritance of male secondary sex characters.

In domestic birds a number of clearly Mendelizing characters have been demonstrated and sex-linked characters have also been described in canaries, pigeons and domestic fowls. In his experiments with wild species, however, Dr. Phillips found "a very different state of things." "Characters often apparently clear-cut and antagonistic do not segregate clearly." "There is some evidence that in closely related geographical races there is a nearer approach to orthodox Mendelism, but this is never reached, even in back crosses, except occasionally in isolated characters or in the more undifferentiated plumages of the female sex."

Dr. Phillips comes to the conclusion that it is almost certain that the ordinary subspecies of the ornithologist is very far from being a unit variation and that sex-linked inheritance is probably a feature of domestic races in birds. Indeed in species hybrids in almost every feather region the most minute detail of feather pattern and color show the influence of both parental races.

Dr. Phillips' paper is of great importance, showing what many students of systematic zoölogy have long felt, that it is not safe to assume that laws and principles of heredity demonstrated in domesticated strains of animals necessarily prevail in the case of wild species.

Too few of those engaged in experimental breeding have a proper training in systematic zoölogy to appreciate the nature of wild species, and we, therefore, especially welcome publications from an investigator so well informed on both sides of the problem as is Dr. Phillips.— W. S.

Allen on Pattern Development in Mammals and Birds.[2]— Dr. Allen has made a valuable contribution to the subject of coloration, a field by the way which opens up many possibilities for the ornithologist who may care to enter it. In the particular phase of the subject which he has been investigating — pattern development — he shows that pigmentation develops from certain centers, each one covering a very definite area. Loss of strength in a center of pigmentation and consequent failure to cover the entire area, results in a white or unpigmented line or space between this

[1] Experimental Studies of Hybridization among Ducks and Pheasants. By John C. Phillips. Jour. of Experimental Zool., Vol. 18, no. 1, January, 1915, pp. 69–112, ppl. 1–8.

[2] Pattern Development in Mammals and Birds. By Glover M. Allen. American Naturalist, 1914, pp. 385–412, 467–484, 550–566.